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# EXERCISES FOR TECHNICAL INSTRUCTION IN WOOD-WORKING.

DESIGNED AND DRAWN BY  
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ARRANGED BY  
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SET I.—Plates 1<sup>st</sup> to 32.

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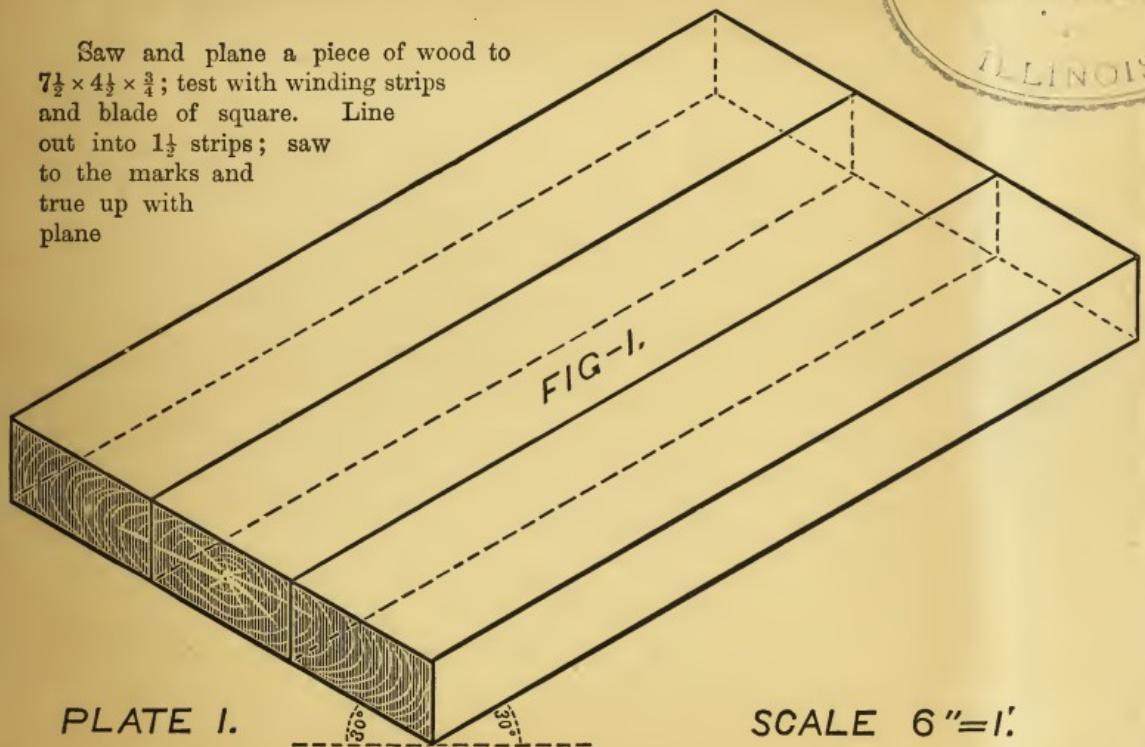
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## PREPARATION FOR RECTANGULAR PRISMS

Saw and plane a piece of wood to  
 $7\frac{1}{2} \times 4\frac{1}{2} \times \frac{3}{4}$ ; test with winding strips  
and blade of square. Line  
out into  $1\frac{1}{2}$  strips; saw  
to the marks and  
true up with  
plane



Saw and plane a piece of wood to  $7\frac{1}{2} \times 4\frac{1}{2} \times \frac{3}{4}$ ; test with winding strips and blade of square.  
Line out into  $1\frac{1}{2}$  strips; saw to the marks and true up with plane

FIG 1.

FIG 3.

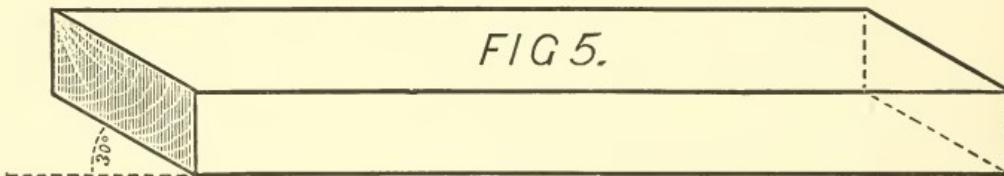


FIG 5.

FIG  
2

FIG 4.

PLATE 2.

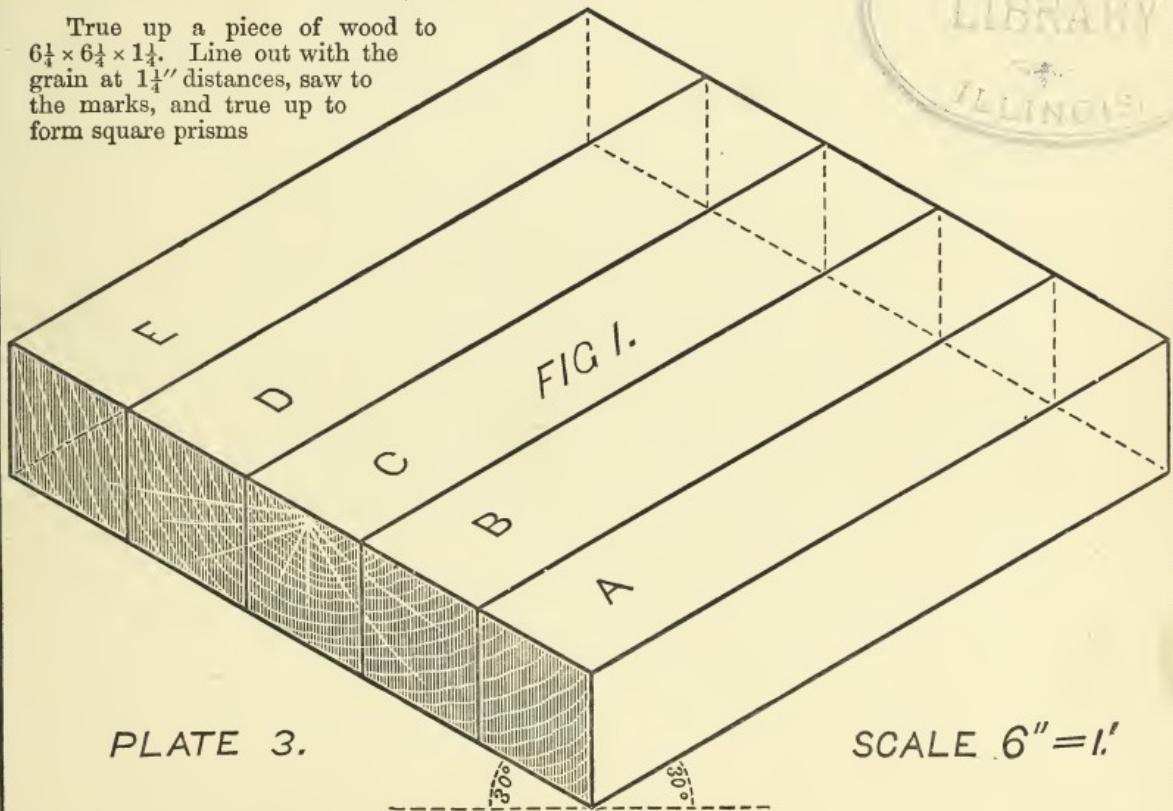
SCALE 6"=1'

# PREPARATION FOR CUBES

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True up a piece of wood to  
 $6\frac{1}{4} \times 6\frac{1}{4} \times 1\frac{1}{4}$ . Line out with the  
grain at  $1\frac{1}{4}$ " distances, saw to  
the marks, and true up to  
form square prisms

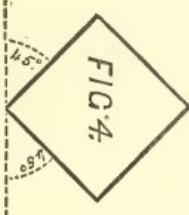


# CUBES

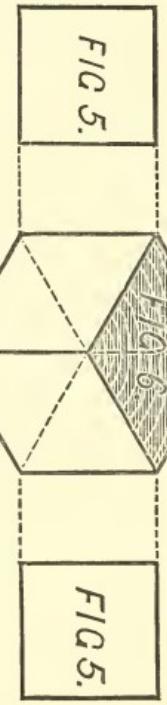
Gauge each prism of Plate 3 across the grain into five equal parts; saw to the marks and trim with chisel to form cubes

*PLATE 4.*

SCALE  $6''=1'$

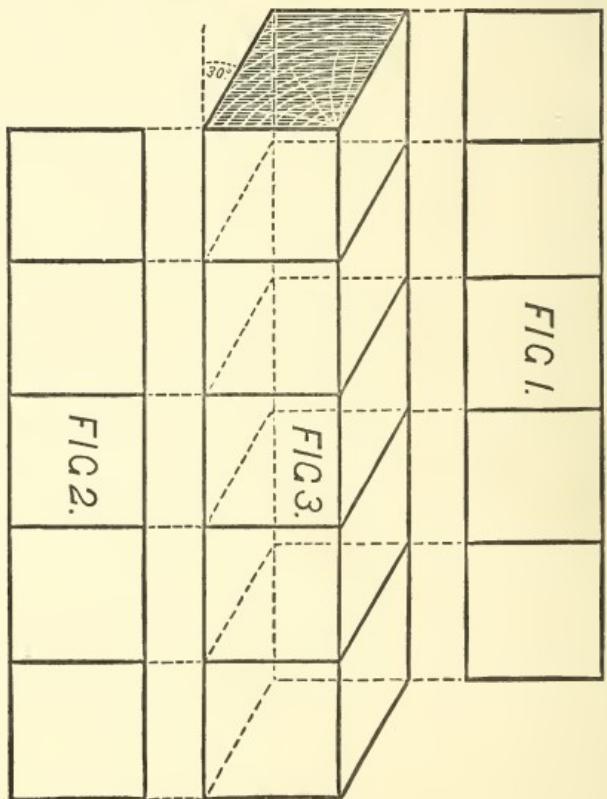


*FIG 4.*



*FIG 5.*

*FIG 6.*



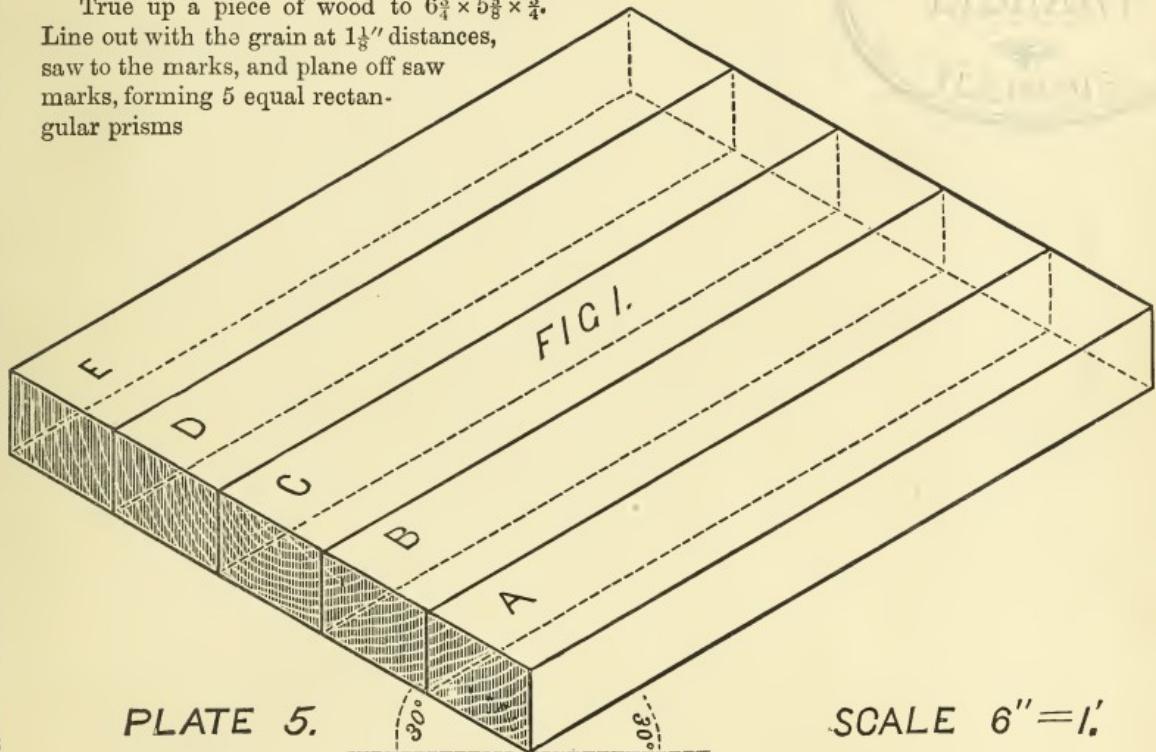
*FIG 1.*

*FIG 3.*

*FIG 2.*

# PREPARATION FOR MODEL BRICKS

True up a piece of wood to  $6\frac{3}{4} \times 5\frac{5}{8} \times \frac{3}{4}$ .  
Line out with the grain at  $1\frac{1}{8}$ " distances,  
saw to the marks, and plane off saw  
marks, forming 5 equal rectangular prisms

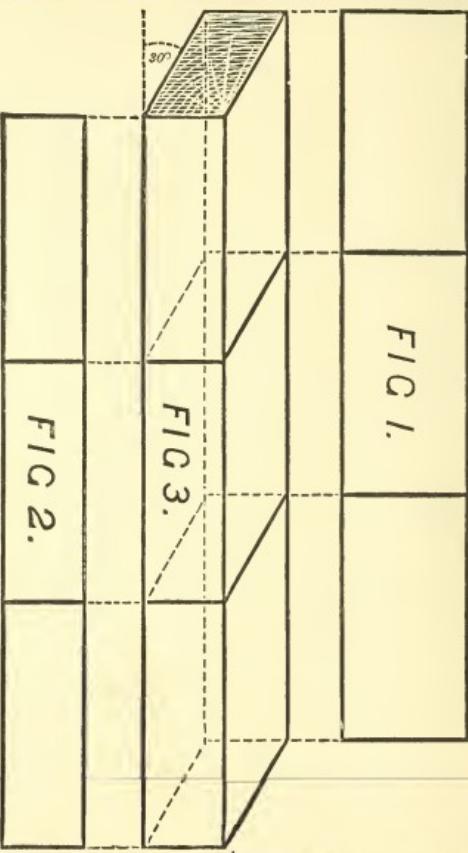
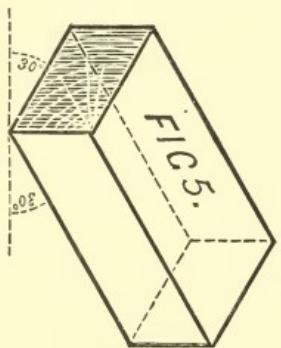


# MODEL BRICKS

## PLATE 6.

SCALE 6"=1'.

Use the strips from Plate 5. Gauge each across the grain into 3 equal parts; saw to the marks and trim with chisel



## PROJECTION OF PLAIN NAILED BOX

Prepare two pieces of wood  $8\frac{1}{2} \times 5 \times \frac{1}{2}$ ,  
two  $5 \times 5 \times \frac{1}{2}$ , and one  $8\frac{1}{2} \times 6 \times \frac{1}{2}$ . Nail  
the first four together to form sides  
and ends of box, and then  
fasten on the bottom with  
nails or screws

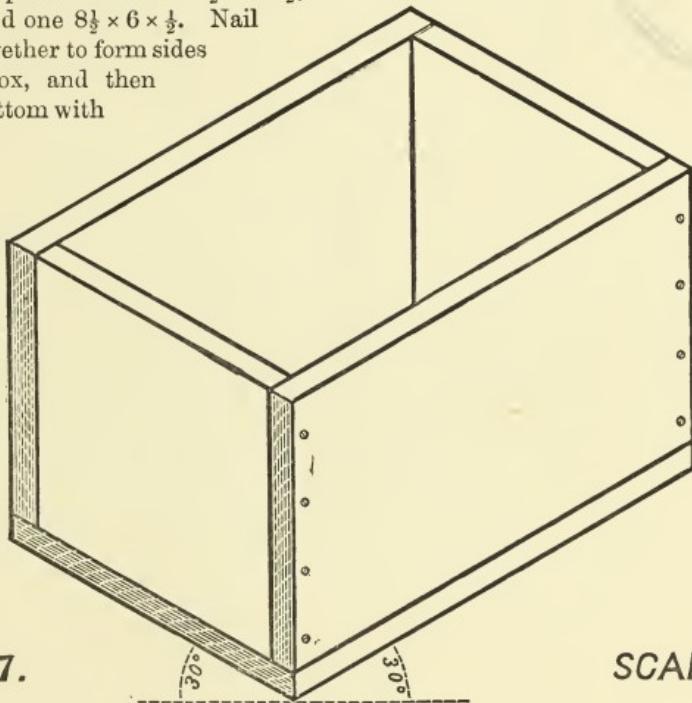


PLATE 7.

SCALE 3''=1'

# PLAN OF PLAIN NAILED BOX

Prepare two pieces of wood  $8\frac{1}{2} \times 5 \times \frac{1}{2}$ , two  $5 \times 5 \times \frac{1}{2}$ , and one  $8\frac{1}{2} \times 6 \times \frac{1}{2}$ . Nail the first four together to form sides and ends of box, and then fasten on the bottom with nails or screws.

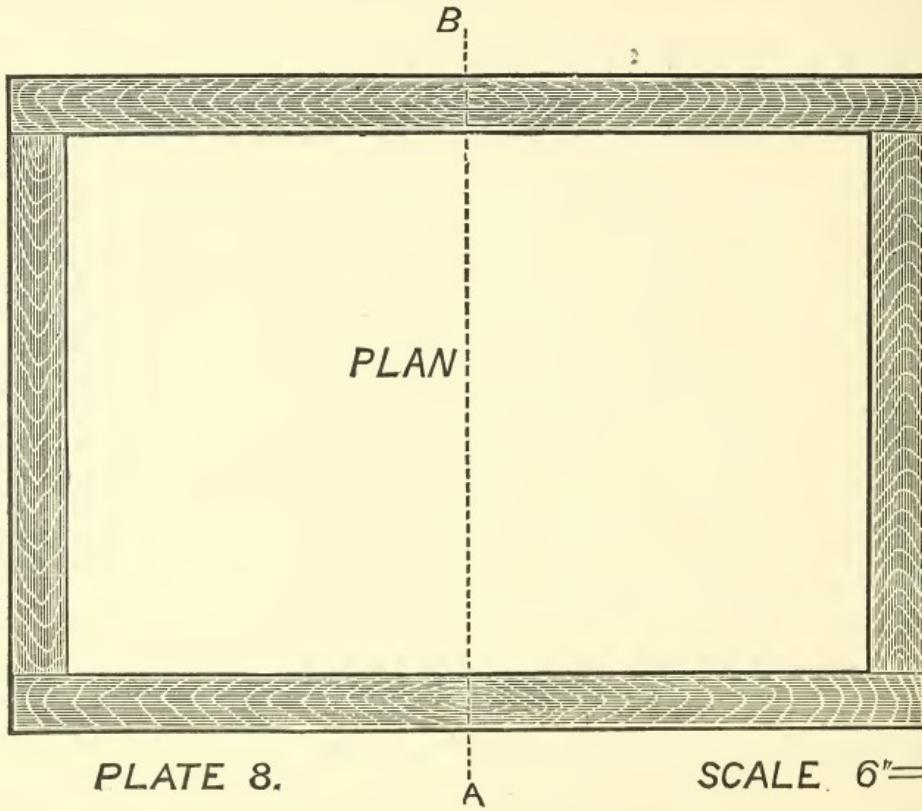


PLATE 8.

SCALE 6"=1'

# EXERCISES IN SAWING

True up two pieces of wood  $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ ; gauge each front and back down the middle and also on the top at  $1\frac{1}{4}$ " distances. In one piece square these lines over to F G; in the other carry them over at  $45^\circ$  to A E. Saw down A, B, C, D, E to FG.

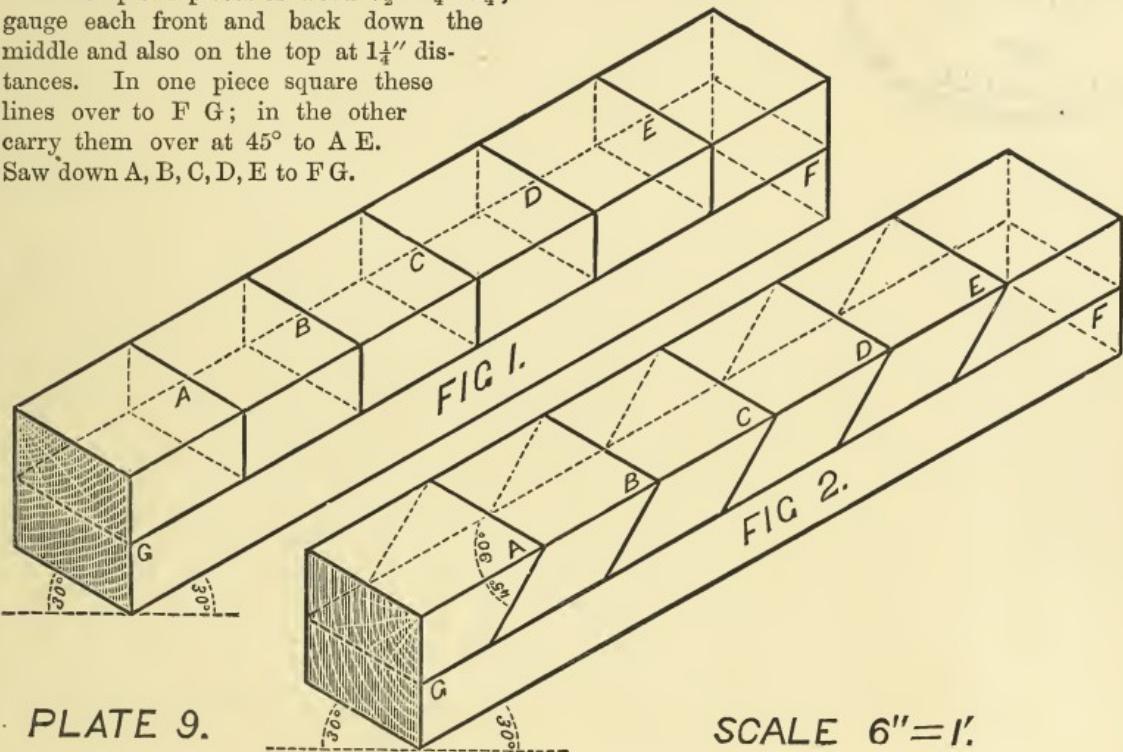
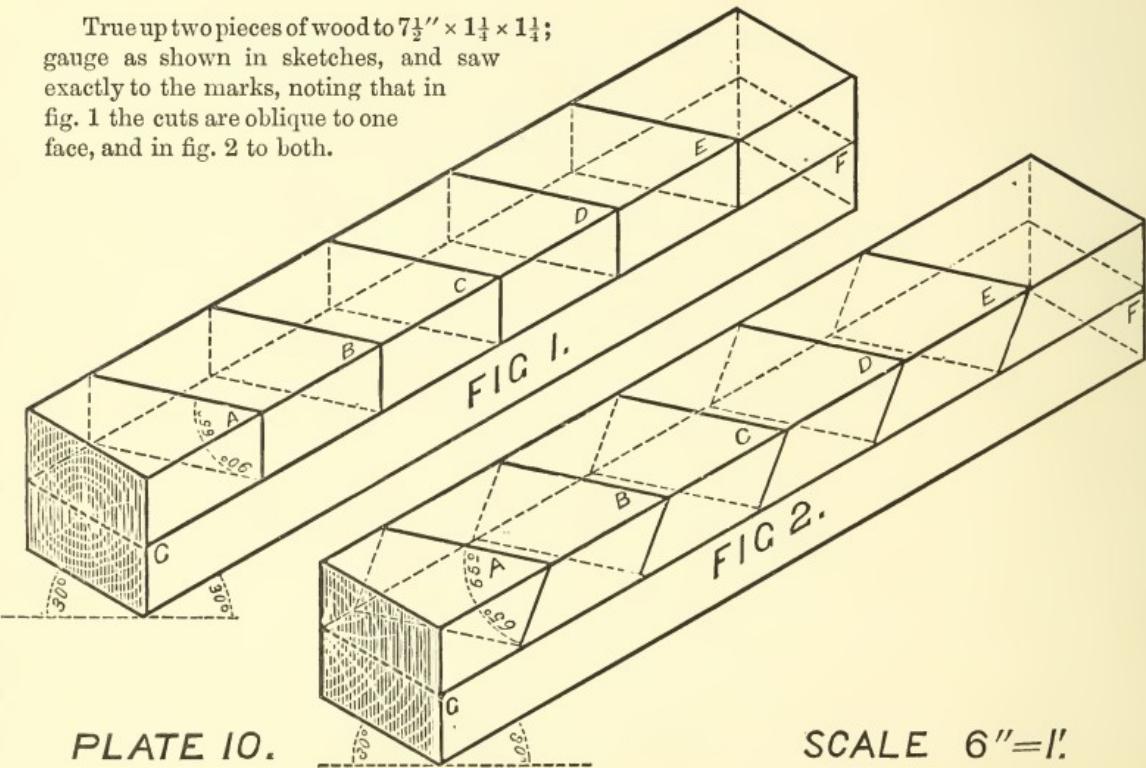


PLATE 9.

SCALE 6"=1'.

# EXERCISES IN SAWING OBLIQUELY

True up two pieces of wood to  $7\frac{1}{2}'' \times 1\frac{1}{4} \times 1\frac{1}{4}$ ; gauge as shown in sketches, and saw exactly to the marks, noting that in fig. 1 the cuts are oblique to one face, and in fig. 2 to both.



# EXERCISES IN SAWING AND TRENCHING

Prepare two strips of wood  $7\frac{1}{2} \times 1\frac{3}{4} \times 1\frac{1}{4}$ .  
Gauge as in sketches; saw exactly  
to the marks, and take out pieces  
with chisel.

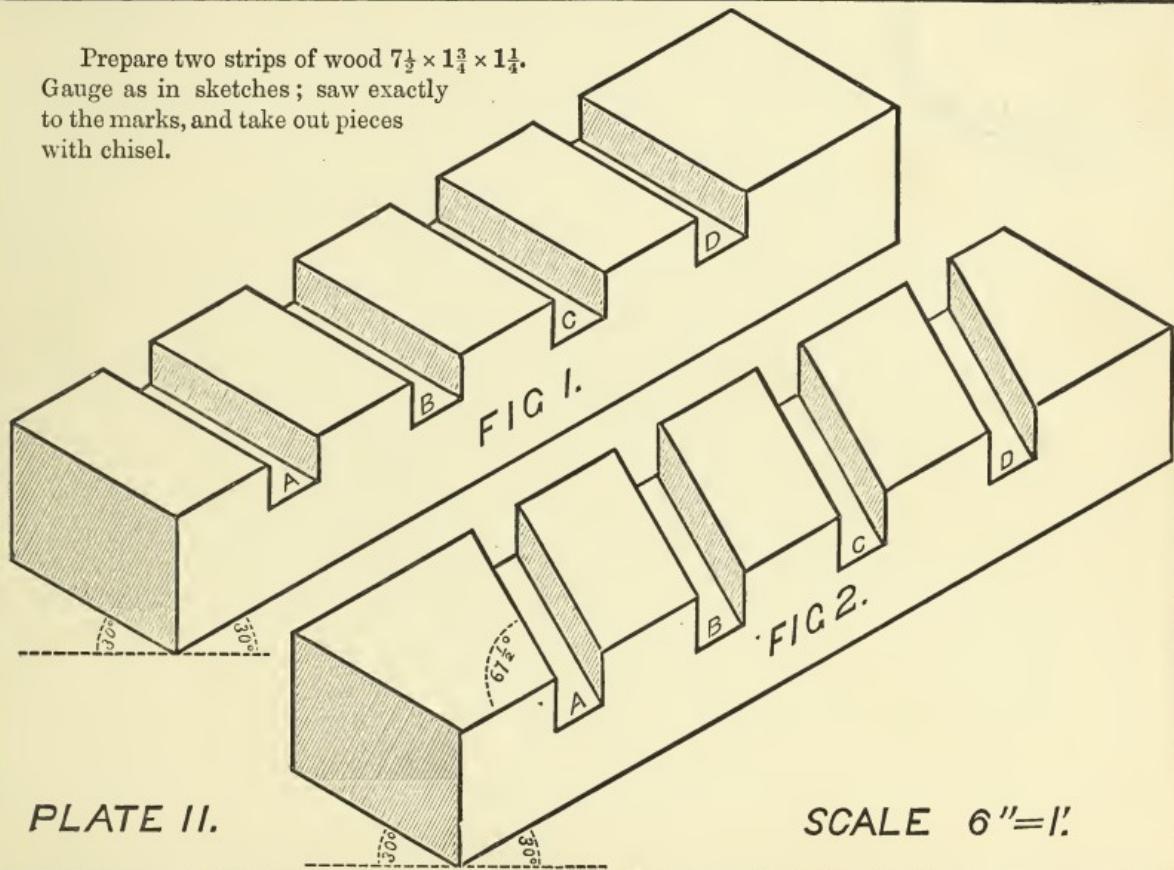


PLATE II.

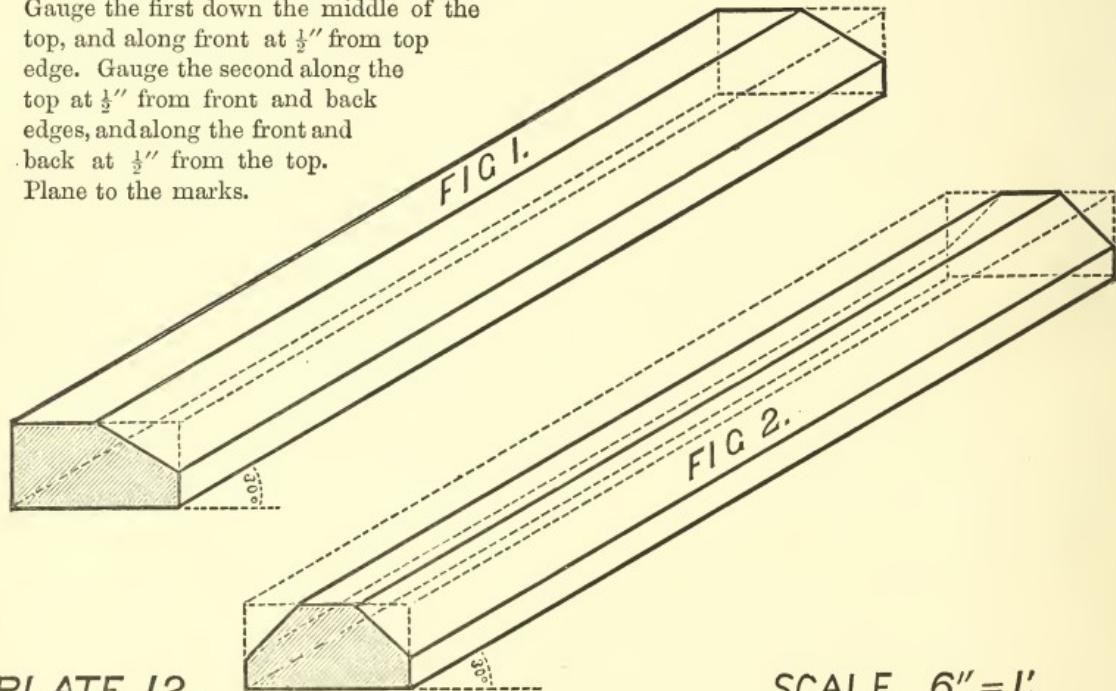
SCALE 6"=1'

# EXERCISES IN CHAMFERING

Use two of the strips from plates 1 and 2.

Gauge the first down the middle of the top, and along front at  $\frac{1}{2}''$  from top edge. Gauge the second along the top at  $\frac{1}{2}''$  from front and back edges, and along the front and back at  $\frac{1}{2}''$  from the top.

Plane to the marks.



## PRISMS

Prepare wood  $6\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$ ; set out figures on the end, and line out down the whole length. Plane to the marks. Finish the cylinder with glass-paper.

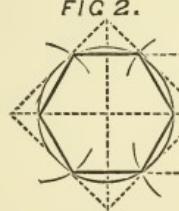
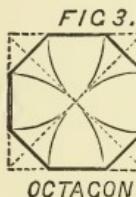
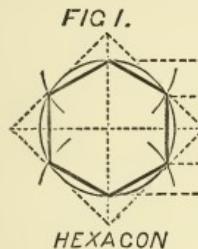
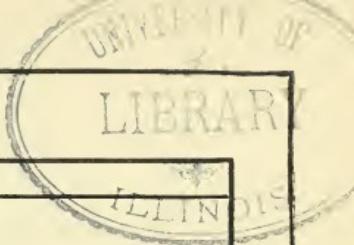


PLATE 13. HEXAGON

SCALE 6"=1'



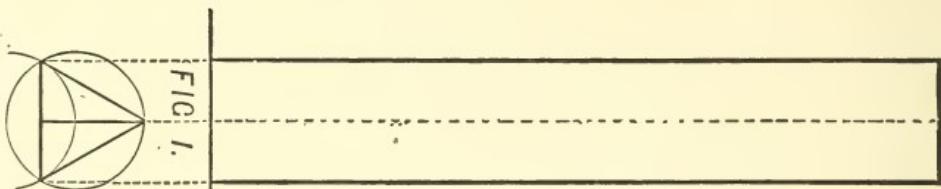
Prepare wood  $6\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$ ; set out figures on the end, and line out down the whole length.  
Plane to the marks. Finish the cylinder with glass-paper

## PLATE 14.

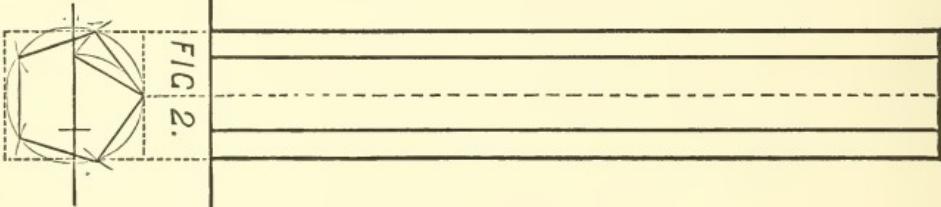
SCALE 6"=1'

## PRISMS

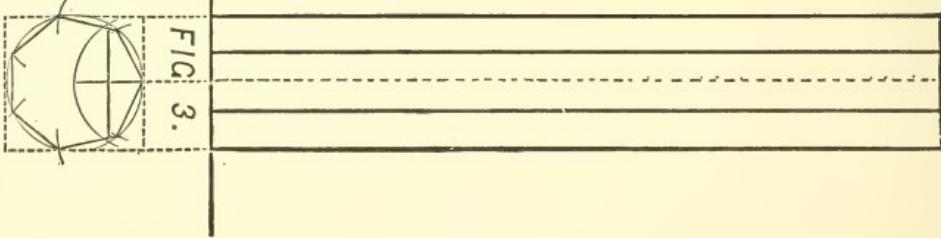
TRIANGULAR PRISM



PENTAGON



HEPTAGON

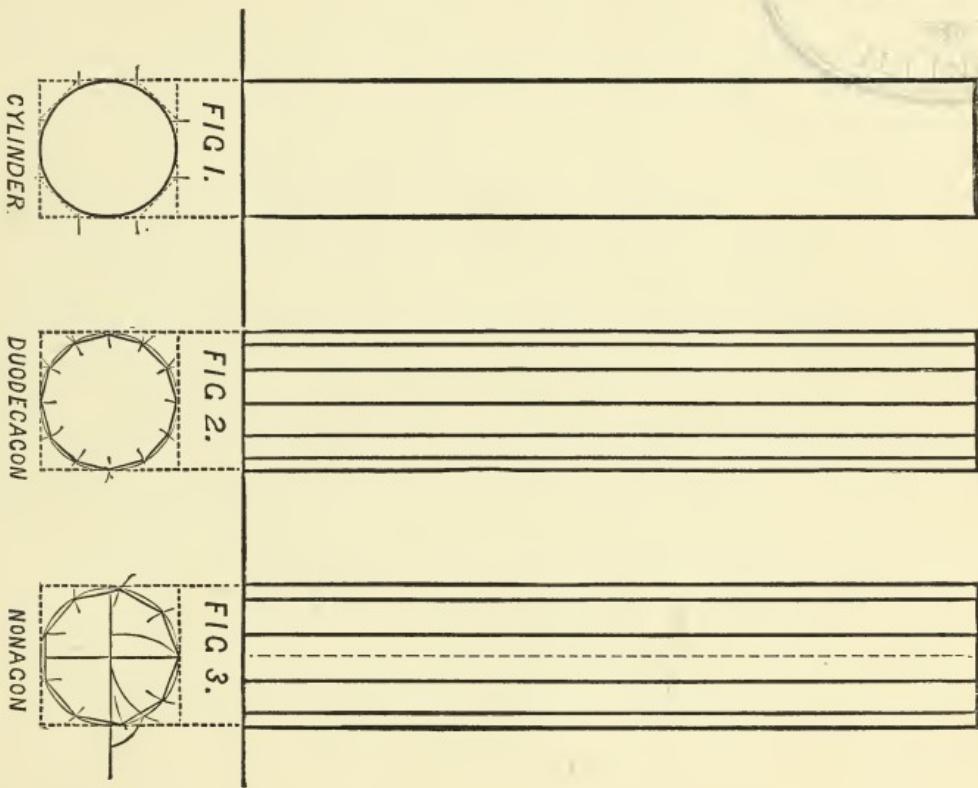


## CYLINDER AND PRISMS

Prepare wood  $6\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$ ; set out figures on the end, and line out down the whole length.  
Plane to the marks. Finish the cylinder with glass-paper

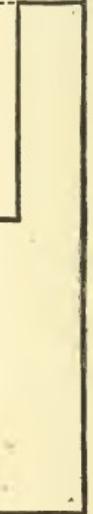
PLATE 15.

SCALE 6"=1'.

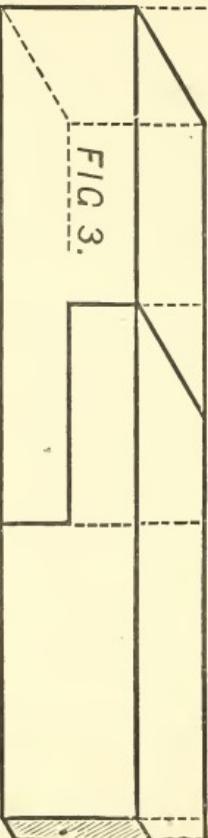


# HALF-LAP SPLICE JOINT

*FIG 2.*



*FIG 1.*

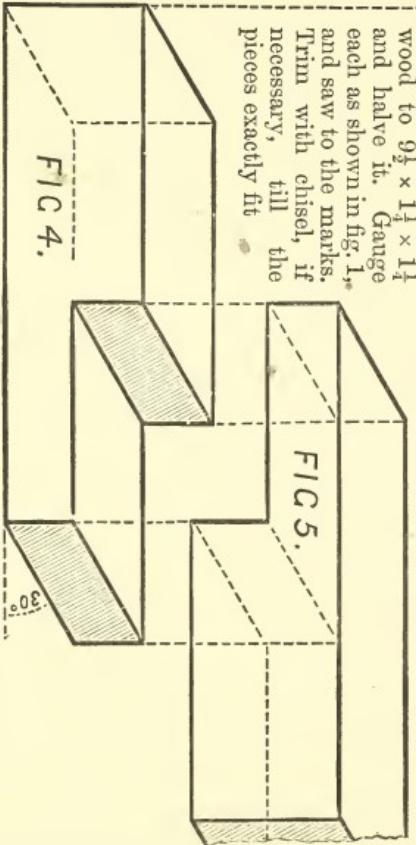


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True up a piece of wood to  $9\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$  and halve it. Gauge each as shown in fig. 1, and saw to the marks. Trim with chisel, if necessary, till the pieces exactly fit.

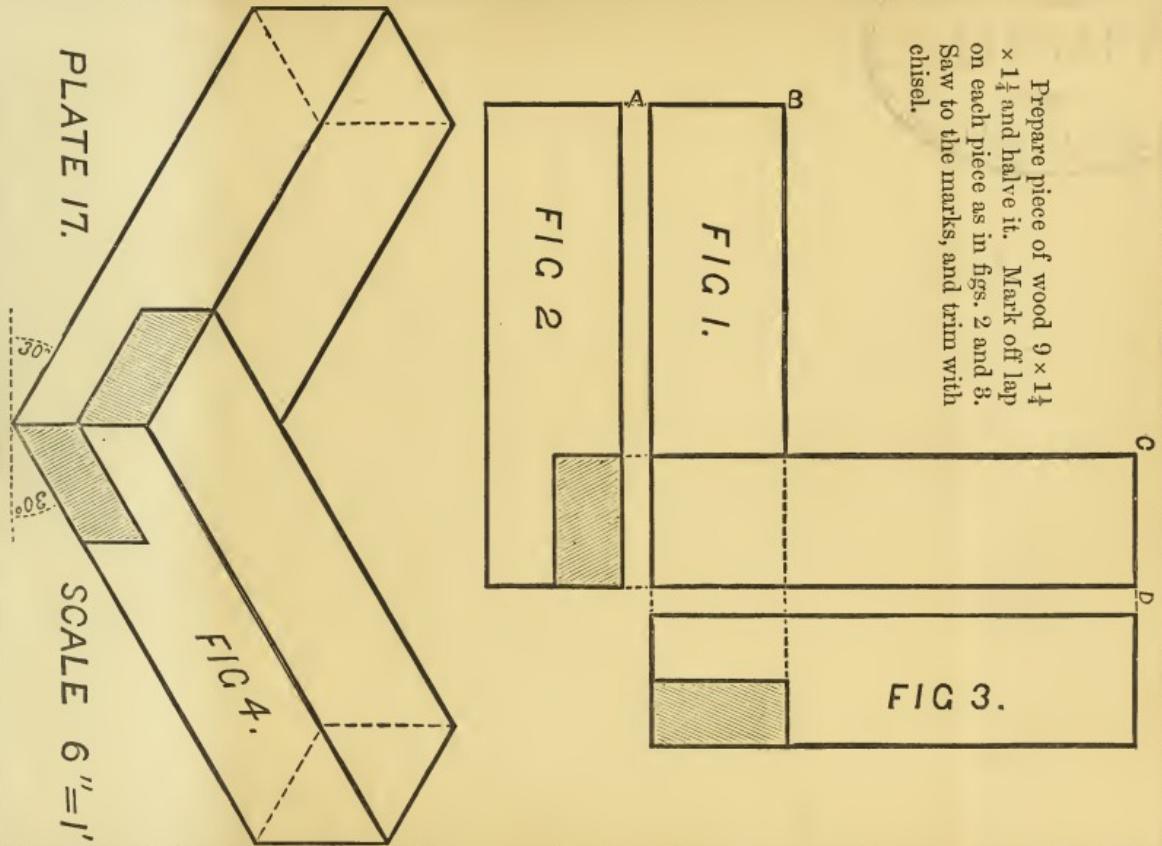
*FIG 4.*



*PLATE 16.*

SCALE 6" = 1'

## CORNER HALF-LAP JOINT



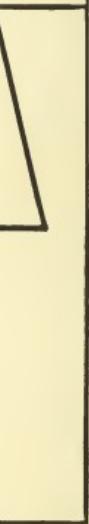
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Prepare piece of wood  $9 \times 1\frac{1}{4}$   
 $\times 1\frac{1}{4}$  and halve it. Mark off lap  
on each piece as in figs. 2 and 3.  
Saw to the marks, and trim with  
chisel.

# HALF-LAP DOVETAIL SPLICE JOINT

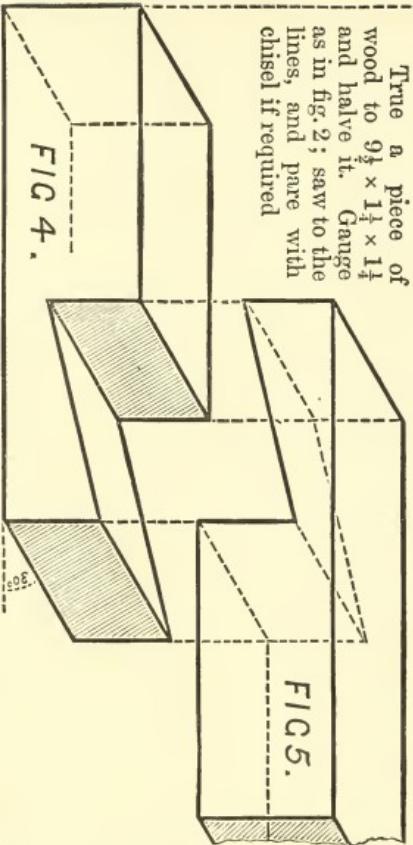
*FIG. 2.*



*FIG. 1.*



*FIG. 3.*



True a piece of wood to  $9\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$  and halve it. Gauge as in fig. 2; saw to the lines, and pare with chisel if required

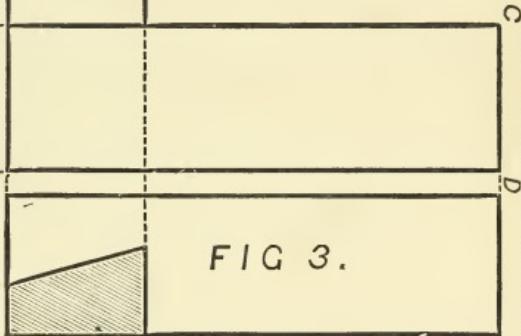
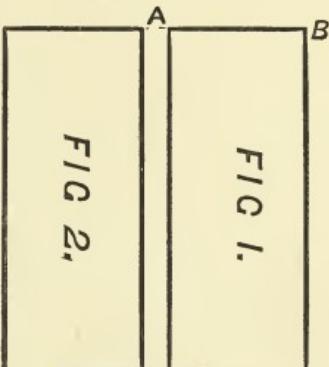
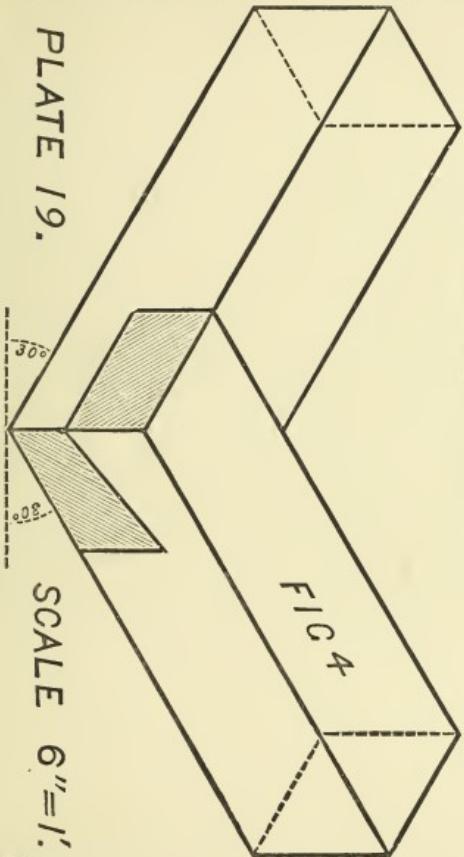
*PLATE 18.*

*SCALE 6"=1'*

# CORNER HALF LAP DOVETAIL JOINT

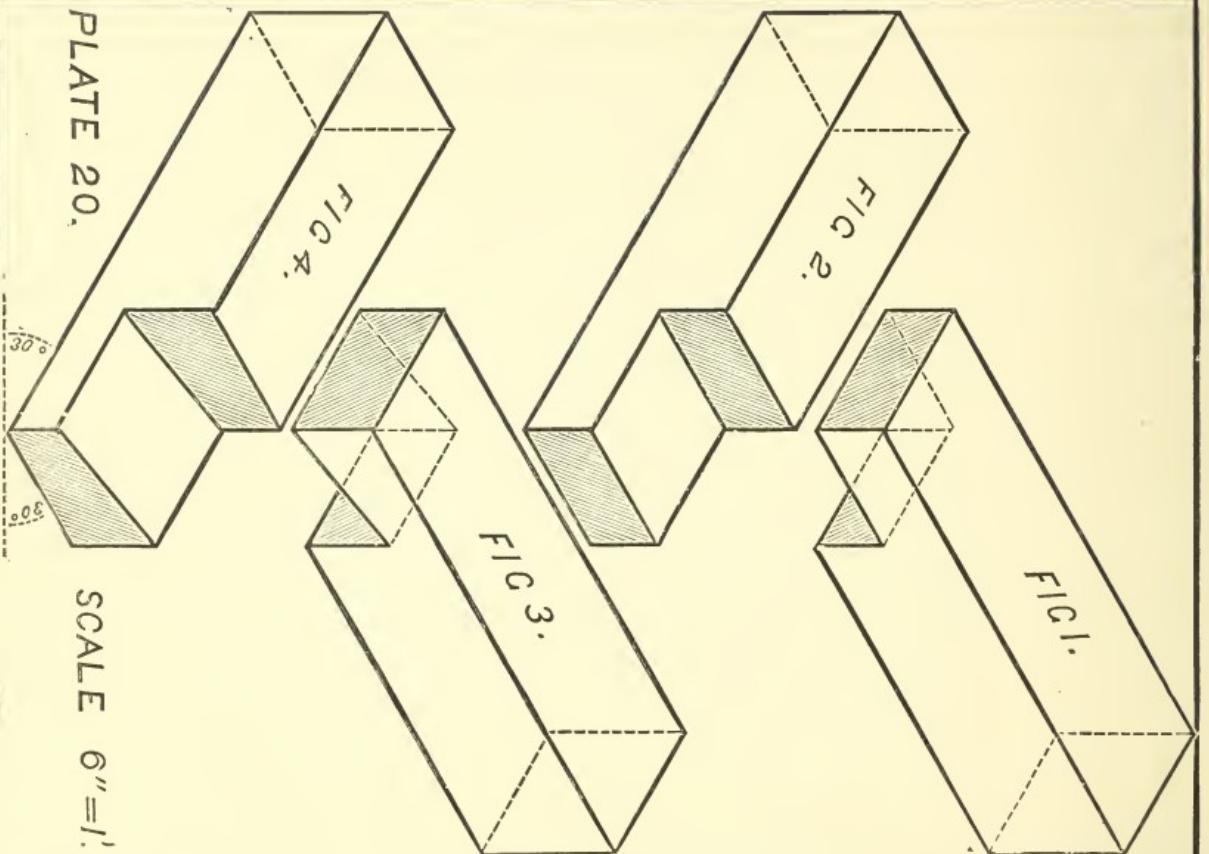
Saw and plane a piece of wood to  $9 \times 1\frac{1}{4} \times 1\frac{1}{4}$  and halve it. Gauge each piece as shown in figs. 2 and 3. Saw to the marks, and pare to obtain a good fit if necessary.

PLATE 19.



PROJECTION OF CORNER HALF-LAP AND HALF-LAP  
DOVETAIL JOINTS

PLATE 20.



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PLAN OF FRAME WITH HALF-LAP JOINTS, OR WITH  
HALF-LAP DOVETAIL JOINTS

True up four pieces of wood to  $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$  and joint them by half-lap or half-lap dovetail joints.

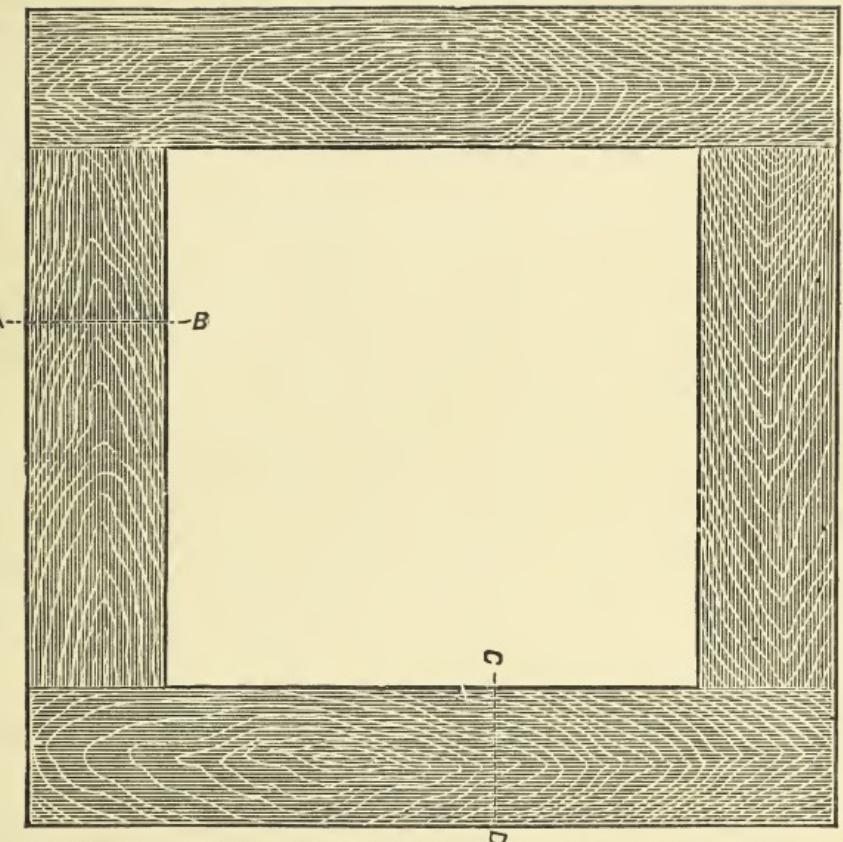


PLATE 21.

SCALE 6"=1'

# CENTRE HALF-LAP JOINT

**PLATE 22.**

SCALE 6"=1'

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*Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
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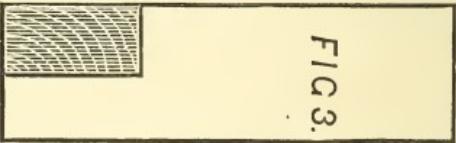


FIG. 3.



FIG. 4.

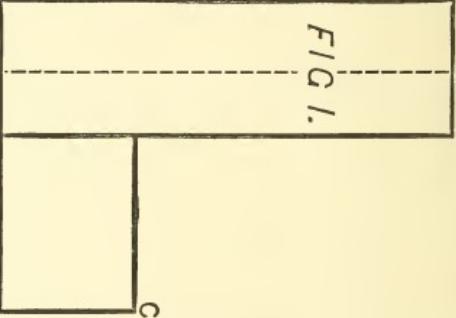


FIG. 1.

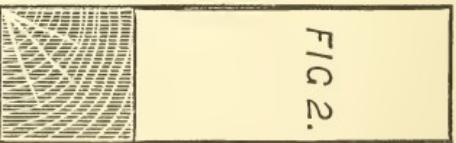


FIG. 2.

PROJECTION OF CENTRE HALF-LAP JOINT

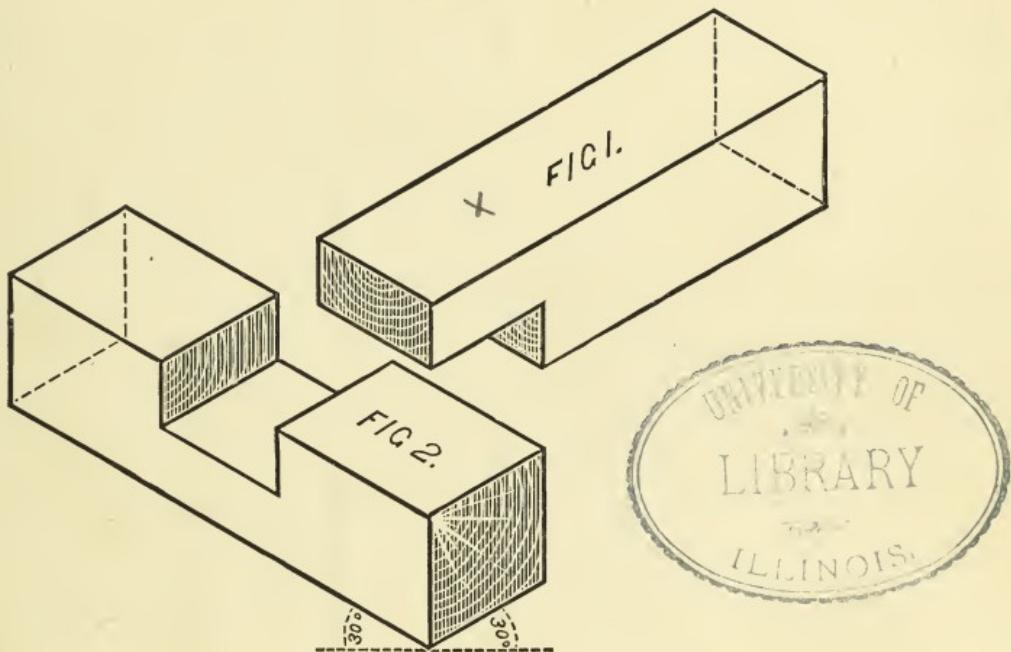
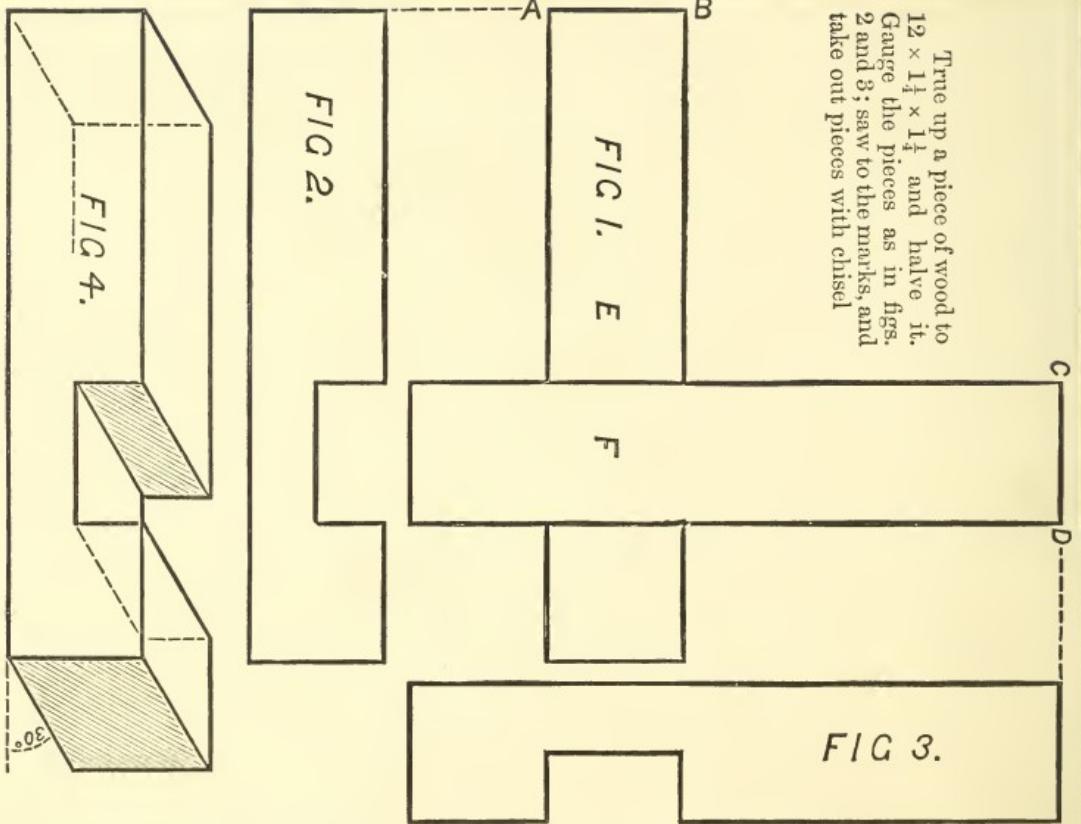


PLATE 23.

SCALE 6"=1'.

## HALVED NOTCHED JOINT

True up a piece of wood to  
 $12 \times 1\frac{1}{4} \times 1\frac{1}{4}$  and halve it.  
 Gauge the pieces as in figs.  
 2 and 3; saw to the marks, and  
 take out pieces with chisel



*PLATE 24.*

*SCALE 6"=1'.*

PROJECTION OF HALVED NOTCHED JOINT

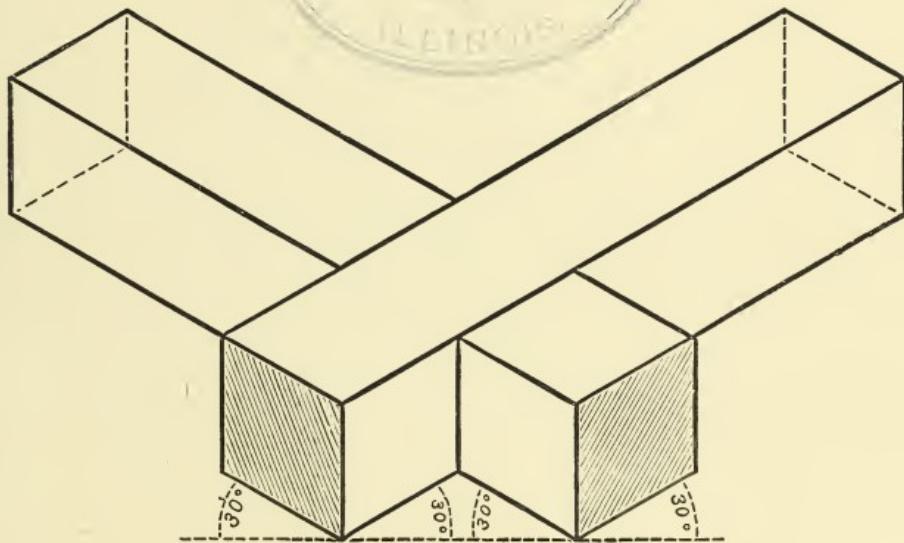


PLATE 25.

SCALE 6"=1"

FRAME WITH HALVED NOTCHED JOINTS  
(OXFORD FRAME)

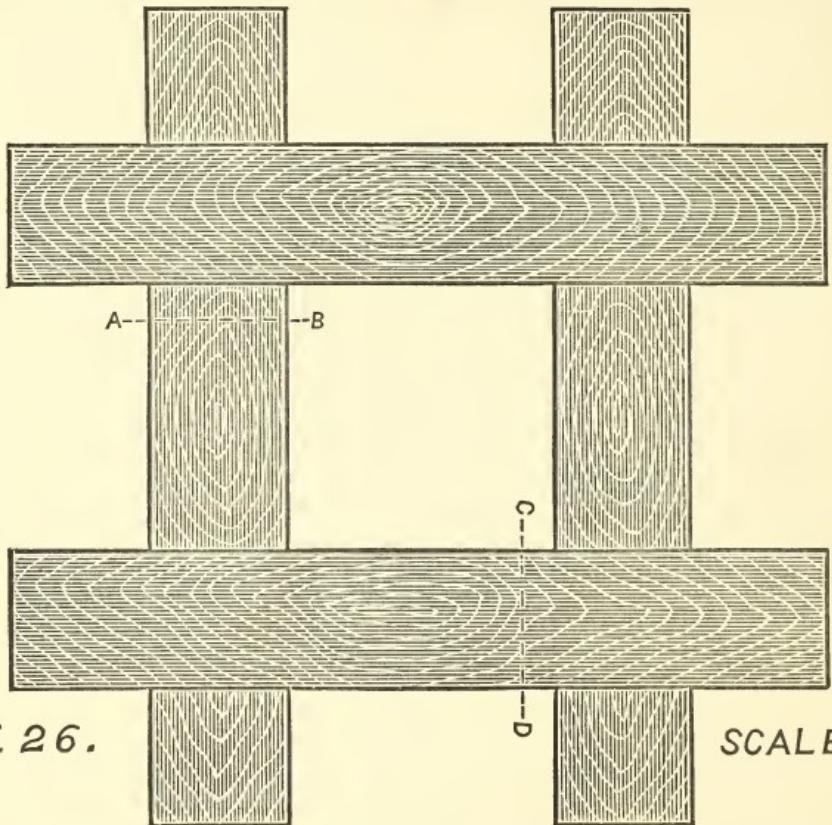


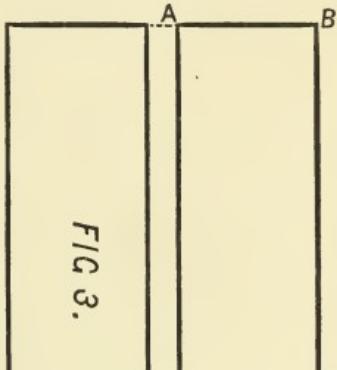
PLATE 26.

SCALE 6"=1'.

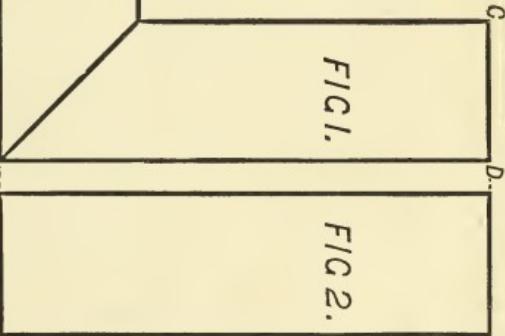
Prepare four pieces of wood  $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ . Gauge for halved notched joint at  $1\frac{1}{4}$ " from each end of each piece. Saw to the marks, and take out with chisel.

## MITRE JOINT

True up a piece of wood to  $9 \times 1\frac{1}{4} \times 1\frac{1}{4}$  and halve it. Set out the mitre on each piece; saw to the marks; pare with a chisel if required, and glue or nail together.



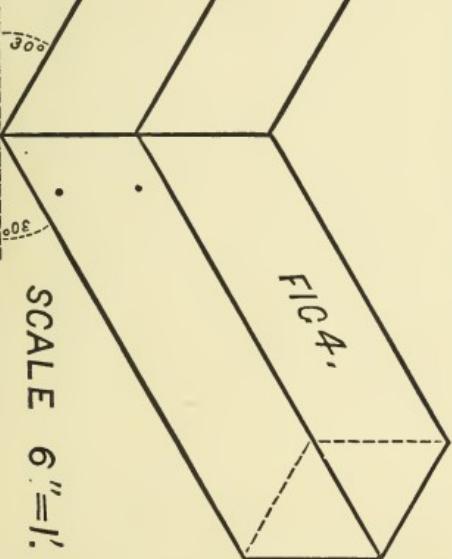
*FIG. 3.*



*FIG. 1.*

*FIG. 2.*

PLATE 27.



SCALE  $6''=1'$

FRAME WITH MITRE JOINTS

Prepare four pieces of wood  $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ , and mitre together as in  
Plate 27

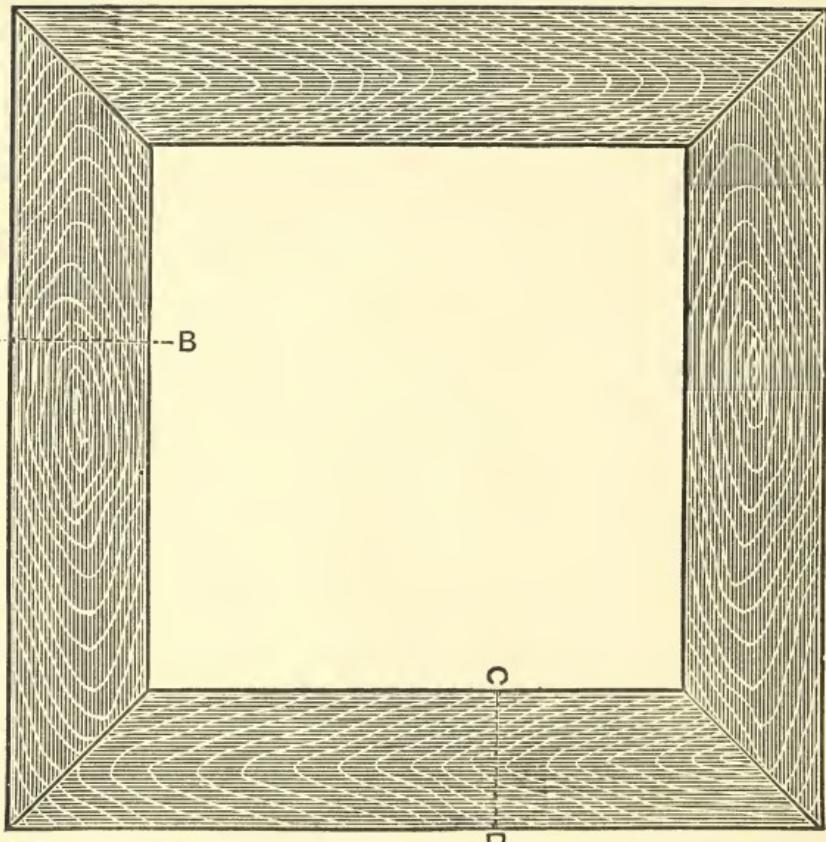
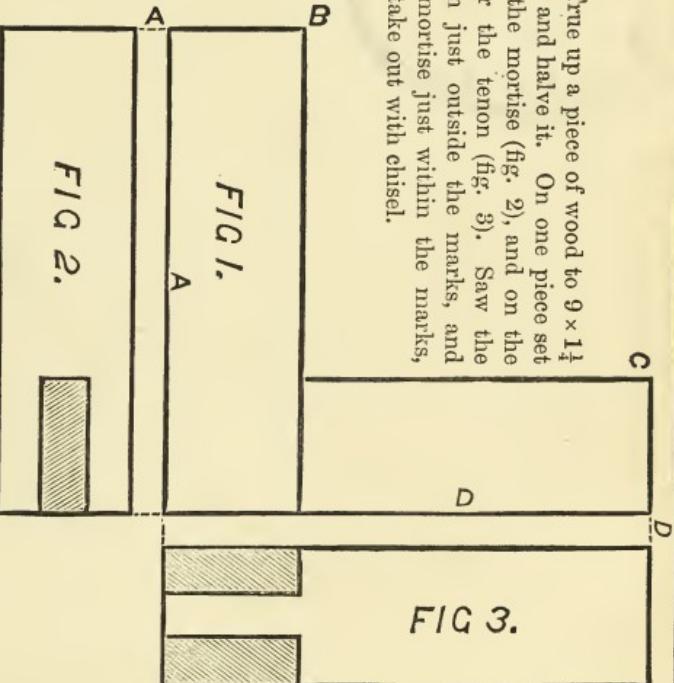
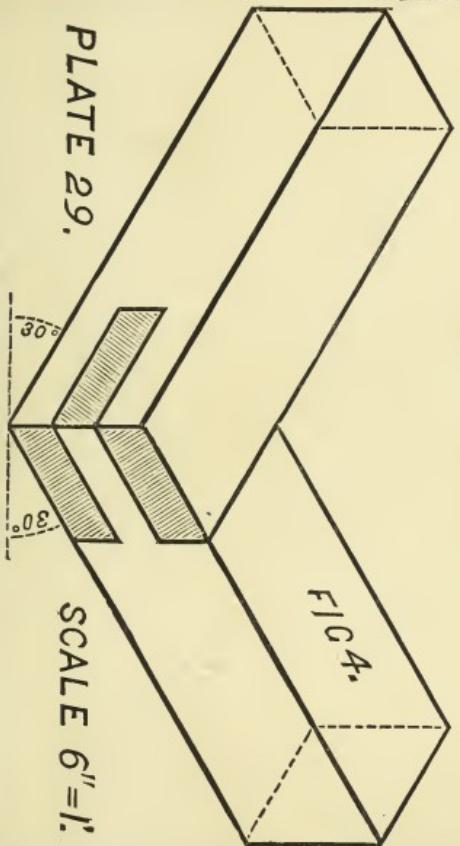


PLATE 28.

SCALE 6" = 1'

## OPEN MORTISE AND TENON JOINT



True up a piece of wood to  $9 \times 1\frac{1}{4}$   $\times 1\frac{1}{4}$  and halve it. On one piece set out the mortise (fig. 2), and on the other the tenon (fig. 3). Saw the tenon just outside the marks, and the mortise just within the marks, and take out with chisel.

# PROJECTION OF OPEN MORTISE AND TENON JOINT

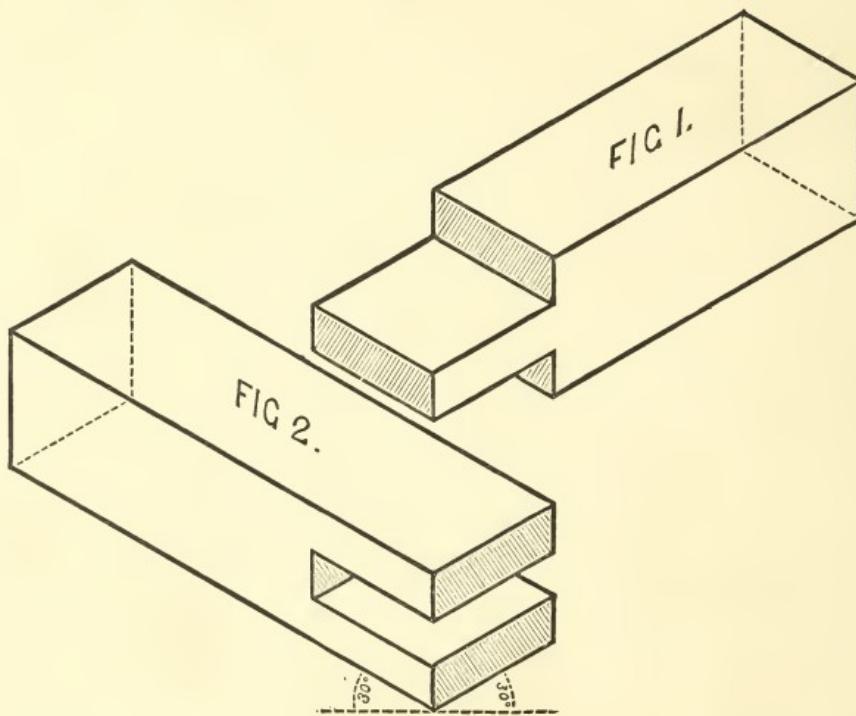


PLATE 30.

SCALE 6"=1'

FRAME WITH OPEN MORTISE AND TENON JOINTS

Prepare four pieces of wood  $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ . On two of them set out tenons, and on the others mortises. Take out pieces with saw and chisel, and join to form a frame.

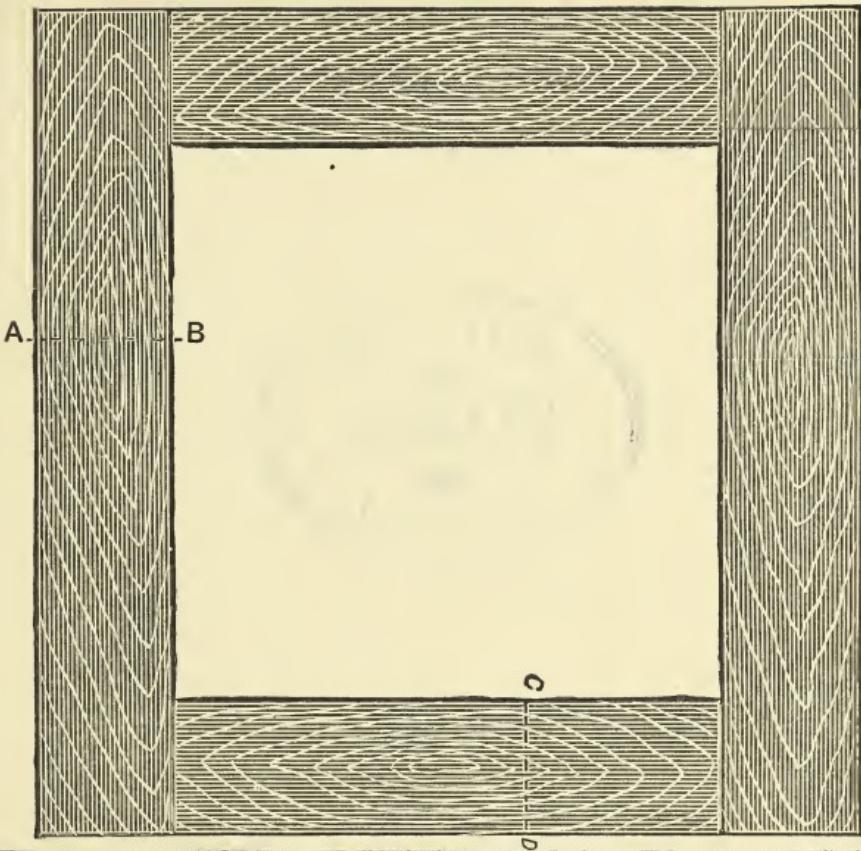


PLATE 31.

SCALE 6" = 1'

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## MITRED MORTISE AND TENON JOINT

True up a piece of wood to  $9 \times 1\frac{1}{4}$   
 $\times 1\frac{1}{4}$  and halve it. Mitre each piece.  
 On one set out mortise, and on the  
 other the tenon. Take out waste  
 with saw and chisel.

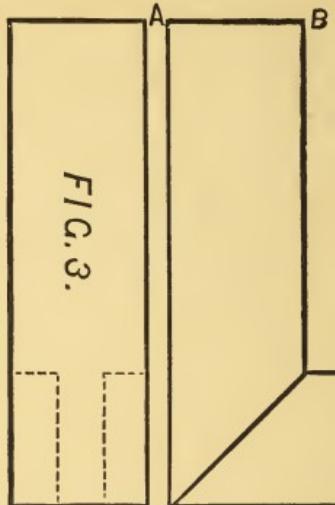


FIG. 1.

FIG. 2.

FIG. 3.

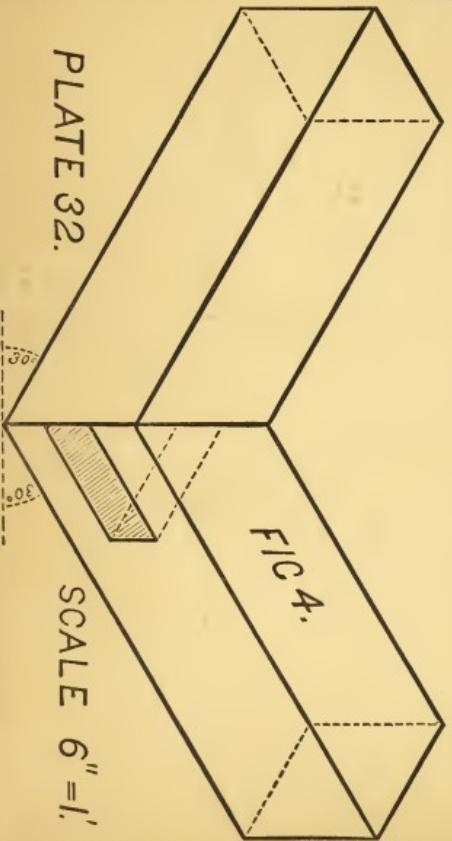


PLATE 32.

SCALE  $6'' = 1'$